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[54] AUTOMATED PROPORTIONAL INTEGRATED SAMPLING SYSTEM

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[58] **Field of Search** 73/863.01-863.03, 73/863.11, 863.31, 863.32, 863.81-863.86, 864.63, 864.91

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[57] **ABSTRACT**

A sampling system for integrated proportional sampling of a fluid stream. The system includes a syringe-like sample container having an inlet/outlet at one end and a piston therein displaceable to fill and discharge the container. The inlet of the sample container is connectable to the fluid stream, for withdrawing samples to the container. Flow sensor means positionable in the fluid stream are provided, for continuously measuring the flow rate of the stream and providing a continuous first control signal varying in accordance with the measured flow rate. Piston drive means withdraw the syringe piston at a rate in accordance with the first control signal, and limit means stop the withdrawing piston at a predetermined end point in its axial movement. The sample container is coupleable and uncoupleable as a unit from the system, to enable the container to be transferred and interconnected for discharge to a sample analyzer while maintaining the collected sample intact between its inlet/outlet and piston, and thereby out of contact with ambient air.

8 Claims, 6 Drawing Sheets